



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/808,253

03/14/2001

Ikuya Tagawa

2500.65308

3355

7590

12/22/2003

Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD.
Suite 2500
300 South Wacker Dr.
Chicago, IL 60606

EXAMINER

MILLER, BRIAN E

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 12/22/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,253

Applicant(s)

TAGAWA ET AL.

Examiner

Brian E. Miller

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 17 is/are rejected.
- 7) ☒ Claim(s) 6-10 is/are objected to.
- 8) ☒ Claim(s) 1-17 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2652

Claims 1-17 are pending.

Restriction/Election

1. Applicant's election with traverse of Species (1), i.e., claims 1-10, 17 in Paper No. 15 is acknowledged. The traversal is on the ground(s) that "examination of all other species would not place an undue burden on the Examiner... and a search for the other Species would likely overlap." This is not found persuasive because multiple patentably distinct species would place an undue burden on the Examiner. Applicant did not clearly admit on the record that the species are not patentably distinct, so therefore they must be. The requirement is still deemed proper and is therefore made FINAL.

2. Claims 11-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in Paper No. 15.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) Line 7, the phrase "between the first interface and the second interface" is misdescriptive. It is not readily apparent from this language if there is one "second interface" or two.

Art Unit: 2652

Claim Rejections - 35 USC § 102

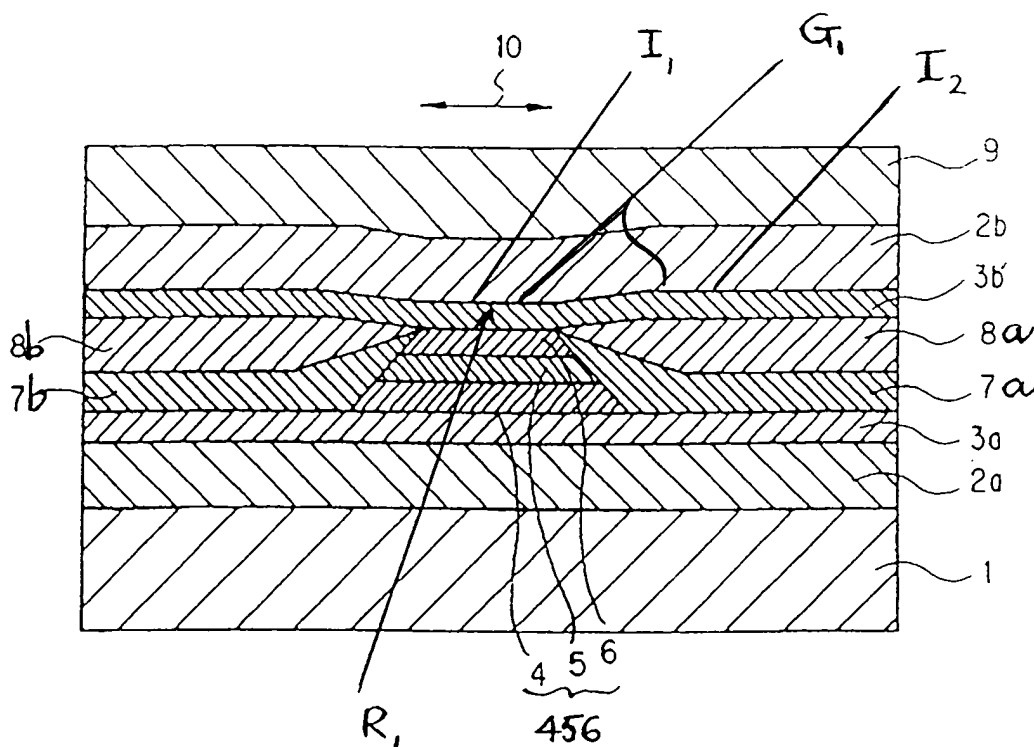
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Ishi (US 5,800,935).

Ishi discloses, as in FIG. 1, a magnetoresistive transducer including a MR film 456 (see FIG. below) extending over a surface of a fundamental layer 3a; a pair of domain control layers 7a, 7b extending over the surface of the fundamental layer 3a so as to interpose the MR film 456 along the fundamental layer 3a, and an upper shield layer 2b opposed to the MR film at a first interface I_1 ; the upper shield layer 2b opposed to the domain control layers 7a, 7b at a second interface I_2 ; a groove G_1 between the first and second interface on the upper shield layer so as to isolate the first and second interface.

!

FIG. 1 5,800,935



Art Unit: 2652

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Gill (US 5,872,689). Gill discloses an MR transducer, as shown primarily in FIG. 7, including: an MR film 50 extending over a surface of a fundamental layer, which fundamental layer is a lower non-magnetic gap layer G1 spreading over a surface of a lower shield layer S1 (as per claim 2); a pair of domain control layers 120, 130 extending over the surface of the fundamental layer so as to interpose the MR film along the fundamental layer; an upper shield layer S2 at a first interface extending along a datum plane, which layer is opposed to the domain control layers at a second interface extending along that datum plane as well; an upper non-magnetic gap layer G2 interposed between the MR film and the upper shield layer, the upper shield layer contacting the upper non-magnetic gap layer at the first interface (as per claim 3).

Claim Rejections 35 U.S.C. 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gill et al. For a description of Gill, see the rejection, supra. Gill is silent as to the material of the lead layer

Art Unit: 2652

being Au. Official Notice is taken that Au is notoriously old and well known in this art to be used for a lead layer material, and it would have been obvious to a skilled artisan to have utilized this material, and/or similar materials, as were commonly known in the art.

Further, as per claim 5, the upper non-magnetic gap layer G2 extends over the lead layer, the upper shield layer contacting the upper non-magnetic gap layer at the second interface.

Allowable Subject Matter

6. Claims 6-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Amendment

6. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments filed 10/20/03 with respect to claim 17 have been fully considered but they are not persuasive.

A...Applicant asserts that "the Ishi reference does not disclose a groove that isolates the first and second interfaces from each other." In response, in so far as the "groove" has been structurally defined in the claim, the Examiner considers the rising of the lower side of the shield layer 2b to encompass a "groove".

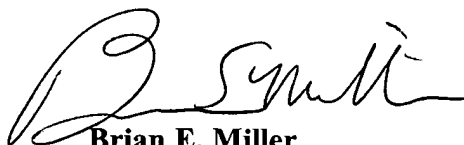
Art Unit: 2652

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (703) 308-2850. The examiner can normally be reached on M-TH 7:15am-4:45pm (and every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.



**Brian E. Miller
Primary Examiner
Art Unit 2652**

bem
December 15, 2003